Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of characterizing an environment, comprising:

receiving uplink signals from a plurality of antenna array elements;

~~estimating uplink spatial signatures from the received uplink signals; and~~

estimating an uplink spatial signature of the received uplink signals;

calculating a geometric uplink spatial signature of the received uplink signals;

~~characterizing the environment based on the estimated uplink spatial signatures as one of a plurality of predetermined environments~~

finding a correlation between the estimated uplink spatial signature and the geometric uplink spatial signature; and

selecting a low clutter environment estimation if the correlation between the estimated uplink spatial signature and the geometric uplink spatial signature is greater than a low clutter threshold.

2. - 3. (Cancelled)

4. (Currently amended) The method of ~~claim 2~~ claim 1 wherein calculating the geometric uplink spatial signature comprises:

estimating a dominant angle of arrival of the uplink signals received by the plurality of antenna array elements;

calculating an uplink spatial signature of the received uplink signals using the estimated dominant angle of arrival.

5. (Currently amended) The method of ~~claim 2~~ claim 1, wherein finding the correlation between the estimated uplink spatial signature and the geometric uplink spatial signature comprises calculating a normalized dot product of the estimated uplink spatial signature and the geometric uplink spatial signature.

6. (Currently amended) The method of ~~claim 2~~ claim 1 wherein estimating the uplink spatial signature of the received uplink signals comprises calculating a correlation vector between the uplink signals received by the plurality of antenna array elements and a reference signal.

7. – 15. (Cancelled)

16. (Currently amended) An apparatus, comprising:

a plurality of antenna elements;

a receiver coupled to receive uplink signals from the plurality of antenna elements; and

a signal processor coupled to the receiver, the signal processor to select an estimation of an environment responsive to the uplink signals received by the plurality of antenna elements, wherein the signal processor is to select a low clutter environment estimation if a correlation between an estimated uplink spatial signature and a geometric uplink spatial signature is greater than a low clutter estimation threshold.

17. (Original) The apparatus of claim 16 further comprising a memory coupled to the receive and the signal processor to store uplink signals received from the plurality of antenna elements.

18. (Cancelled).

19. (Currently amended) The apparatus of ~~claim 18~~ claim 16 wherein the signal processor is ~~coupled~~ to calculate the geometric uplink spatial signature responsive to a dominant angle of arrival estimated by the signal processor responsive to the uplink signals received from the plurality of antenna elements.

20. - 24. (Cancelled)

25. (Currently amended) A tangible machine-readable medium having stored thereon instructions, which when executed cause:

receiving uplink signals from a plurality of antenna array elements;

storing the uplink signals received from the plurality of antenna array elements;

~~selecting an estimation of an environment responsive to the uplink signals received from the plurality of antenna elements~~

estimating an uplink spatial signature responsive to the uplink signals received from the plurality of antenna array elements;

estimating a dominant angle of arrival responsive to the uplink signals received from the plurality of antenna array elements;

calculating a geometric uplink spatial signature responsive to the uplink signals received from the plurality of antenna array elements and the estimated dominant angle of arrival;

finding a correlation between the estimated uplink spatial signature and the geometric spatial signature; and

selecting a low clutter environment estimation if the correlation between the estimated uplink spatial signature and the geometric spatial signature is greater than a low clutter threshold.

26. (Cancelled)

27. (Currently amended) The tangible machine-readable medium of ~~claim 26~~ claim 25 wherein finding the correlation between the estimated uplink spatial signature and the geometric spatial signature comprises calculating a normalized dot product between the estimated uplink spatial signature and the geometric spatial signature.

28. – 33. (Cancelled)

34. (Currently amended) A method of characterizing an environment, comprising:

receiving uplink signals from a plurality of antenna array elements; and

~~characterizing the environment based on the received uplink signals~~

estimating an uplink spatial signature from the received uplink signals;

calculating a geometric uplink spatial signature from the received uplink signals;

finding a correlation between the estimated uplink spatial signature and the geometric uplink spatial signature; and

selecting a low clutter environment if the correlation between the estimated uplink spatial signature and the geometric uplink spatial signature is greater than a low clutter threshold.

35.-38 (Cancelled)

39. (Previously Presented) The method of claim 1 wherein the uplink signals are included in a spatial division multiple access (SDMA) communications system.

40. (Previously Presented) The method of claim 1 wherein the uplink signals are included in a time division duplex (TDD) communications system.

41. (Previously Presented) The method of claim 1 wherein the uplink signals are included in a frequency division duplex (FDD) communications system.

42. (Previously Presented) The method of claim 1 wherein the uplink signals are received by the plurality of antenna array elements from one or more remote terminals.

43. (Previously Presented) The method of claim 16, wherein the plurality of antenna elements comprise a handset.